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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,702	03/19/2001	Matthew Waight	MOT-D2542	8838

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EXAMINER	
SHANNON, MICHAEL R	

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/811,702	WAIGHT ET AL.	
	Examiner	Art Unit	
	Michael R Shannon	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☒ Claim(s) *1,5,11,12,and 13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *20020909*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1, 5, 11, 12, and 13 are objected to because of the following informalities:

Claims 11 and 12 contain the phrase "said CPLD", which lacks antecedent basis, however, the claims will still be examined with regards to an art rejection below.

Claims 1 and 13 contain the misspelled word "programable" on lines 8 and 5, respectively. Please correct this to read "programmable".

Claim 5 contains the phrase "said unamplified signal", which lacks antecedent basis, however, the claim will be examined with regards to an art rejection below, assuming that "said unamplified signal" is meant to read "said upstream unamplified communication signal".

Appropriate correction is required.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **410**. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of

an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 5-6, 9-10, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by McMullan Jr. (USPN 5,251,324), cited by applicant.

Regarding claim 1, the claimed "cable modem for receiving down stream and transmitting upstream communication signals to a cable network having an upstream power control system for controlling power consumption" is met as follows:

- The claimed "MAC chip for synchronizing upstream communication signals, and outputting an upstream control signal" is met by the Microprocessor 504 [Fig. 4], which is the "brain" of the module, acting as a MAC chip to determine when to transmit (based on instructions sent from the head end) [col. 11, lines 58-63 & col. 15, lines 54-63].

- The claimed "upstream amplifier for receiving synchronized upstream communication signals from said MAC chip" is met by amplifier 509 [Fig. 4], which amplifies the upstream signal received from the Microprocessor and sends it to the head end [col. 13, lines 14-18].
- The claimed "complex programmable logic device (CPLD), coupled to said MAC chip and said upstream amplifier, which controls said amplifier in response to the upstream control signal from said MAC chip, such that said CPLD causes said upstream amplifier to power on during transmission of upstream signals and power off when not transmitting said upstream signals, thereby reducing power consumption of the cable modem" is met by the anti-babble control 513 [Fig. 4], which serves to power on/off and switch on/off the amplifier 509 [col. 11, lines 65-68 & col. 13, lines 14-18].

Regarding claim 2, the claimed "cable modem according to claim 1 wherein said CPLD generates an amplifier switch signal for connecting said upstream amplifier to an RF tuner for transmission of said upstream data signal to said head end, and an amplifier control signal for powering on and off said upstream amplifier" is met by the anti-babble control 513, which controls the on/off switching of the amplifier 509. The anti-babble control 513 can power on/off the amplifier and can switch on/off the connection from the amplifier to the Diplex Filter 511 for transmission via RF [col. 13, lines 14-41].

Regarding claim 5, the claimed "method of upstream power control for a cable modem" is met as follows:

- The claimed step of "selectively generating an upstream unamplified communication signal along with a control signal" is met by the Microprocessor's ability to generate an unamplified communication signal (to be sent to the Amplifier 509 through the BPSK MOD 508) and a Control signal (to be sent to the Amplifier 509 through the Anti-Babble Control 513).
- The claimed step of "controlling an upstream amplifier in response to said control signal such that said upstream amplifier is powered on to amplify said unamplified signal when generated and powered off when no upstream communication signal is being generated, thereby reducing power consumption of said cable modem" is met by the anti-babble control 513 [Fig. 4], which serves to power on/off and switch on/off the amplifier 509 to amplify the unamplified signal and send it to the head end [col. 11, lines 65-68 & col. 13, lines 14-18].

Regarding claim 6, the claimed "method according to claim 5 further comprising generating an amplifier control signal and amplifier switch signal responsive to said control signal" is met by the anti-babble control 513, which controls the on/off switching of the amplifier 509. The anti-babble control 513 can power on/off the amplifier and can switch on/off the connection from the amplifier to the Diplex Filter 511 upon request from the Microprocessor 504 [col. 13, lines 14-41].

Regarding claim 9, the claimed "cable modem for receiving downstream and transmitting upstream communication signals to a cable network having an upstream power control system" is met as follows:

- The claimed "control circuit for synchronizing upstream communication with a cable network head end, wherein an control signal is generated" is met by the Microprocessor 504 [Fig. 4], which is the "brain" of the module, acting as a MAC chip to determine when to transmit (based on instructions sent from the head end) and send control signals to the anti-babble control accordingly [col. 11, lines 58-63 & col. 15, lines 54-63].
- The claimed "upstream amplifier for receiving synchronized upstream communication signals from said control circuit" is met by amplifier 509 [Fig. 4], which amplifies the upstream signal received from the Microprocessor 504 through the BPSK MOD 508 and sends it to the head end [col. 13, lines 14-18].
- The claimed "control signal causing said upstream amplifier to power on during transmission of said upstream data signals and power off when not transmitting said upstream data signals, thereby reducing said power consumption of said cable modem" is met by the anti-babble control 513 [Fig. 4], which serves to power on/off and switch on/off the amplifier 509 [col. 11, lines 65-68 & col. 13, lines 14-18].

Regarding claim 10, the claimed "system according to claim 9 wherein said control signal comprises an amplifier control signal for controlling said upstream

amplifier and an amplifier switch signal for connecting said upstream amplifier to an RF tuner for transmission of said upstream data signal to said network head end" is met by the anti-babble control 513, which controls the on/off switching of the amplifier 509. The anti-babble control 513 can power on/off the amplifier and can switch on/off the connection from the amplifier to the Diplex Filter 511 for transmission via RF to the head end [col. 13, lines 14-41].

Regarding claim 13, the claimed "system according to claim 9 wherein said control circuit comprises the following" is met as follows:

- The claimed "MAC chip for synchronizing upstream communication signals, and outputting said upstream control signal" is met by the Microprocessor 504 [Fig. 4], which is the "brain" of the module, acting as a MAC chip to determine when to transmit (based on instructions sent from the head end) and send control signals to the anti-babble control accordingly [col. 11, lines 58-63 & col. 15, lines 54-63].
- The claimed "complex programmable logic device (CPLD), coupled to said MAC chip and said upstream amplifier, which controls said amplifier by generating said amplifier control signal and said amplifier switch signal in response to the upstream control signal from said MAC chip" is met by the anti-babble control 513 [Fig. 4], which serves to power on/off and switch on/off the amplifier 509 upon request of the Microprocessor 504 [col. 11, lines 65-68 & col. 13, lines 14-18].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3-4, 7-8, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over McMullan Jr. (USPN 5,251,324), cited by applicant, in view of Jung (USPN 6,678,893), cited by examiner.

Regarding claim 3, McMullan Jr. teaches all of that which is discussed above with regards to claim 2. However, the McMullan reference does not teach that the "CPLD generates said amplifier switch signal after said amplifier control signal is generated, thereby stabilizing said upstream amplifier". The Jung reference teaches the steps of sending a requested pilot signal to the head-end through an amplifier. The first step requires a power (control) signal to turn on the pilot signal generator [col. 4, lines 49-60]. A later step requires the switch to be activated to connect the pilot signal to the amplifier [col. 5, lines 8-13]. The two steps that take place in that order meet the fact that the CPLD generates the amplifier switch signal after the amplifier control signal is generated, thereby stabilizing said upstream amplifier. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the control and switch signals as taught in Jung, in order to allow the system to stabilize and allow the head-end to "receive a constant level signal" [col. 4, line 19].

Regarding claim 4, McMullan Jr. and Jung teach all of that which is discussed above with regards to claim 3. The McMullan reference does not teach that the "CPLD continues generating said amplifier control signal after said CPLD ceases to generate said amplifier switch signal, thereby truncation of said upstream data signal is avoided". As is mentioned above, the steps of creating a power signal followed by creating a switching signal function to stabilize the upstream amplifier before transmission. The fact that the switching signal is negated after the power signal has been negated is met by the same steps as discussed above. The two steps that take place in that order meet the fact that the CPLD continues generating the amplifier control signal after the CPLD ceases to generate the amplifier switch signal, thereby truncation of the upstream data signal is avoided. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the control and switch signals as taught in Jung, in order to allow the system to avoid truncation of the data signal and allow the head-end to "receive a constant level signal" [col. 4, line 19].

Regarding claim 7, McMullan Jr. teaches all of that which is discussed above with regards to claim 6. However, the McMullan reference does not teach that the "amplifier switch signal is generated after said amplifier control signal". The Jung reference teaches the steps of sending a requested pilot signal to the head-end through an amplifier. The first step requires a power (control) signal to turn on the pilot signal generator [col. 4, lines 49-60]. A later step requires the switch to be activated to connect the pilot signal to the amplifier [col. 5, lines 8-13]. The two steps that take place in that order meet the fact that the amplifier switch signal is generated after the amplifier

control signal. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the control and switch signals as taught in Jung, in order to allow the system to stabilize and allow the head-end to "receive a constant level signal" [col. 4, line 19].

Regarding claim 8, McMullan Jr. and Jung teach all of that which is discussed above with regards to claim 7. The McMullan reference does not teach that the "amplifier control signal continues to be generated after said amplifier switch signal ceases to be generated". As is mentioned above, the steps of creating a power signal followed by creating a switching signal function to stabilize the upstream amplifier before transmission. The fact that the switching signal is negated after the power signal has been negated is met by the same steps as discussed above. The two steps that take place in that order meet the fact that the amplifier control signal continues to be generated after said amplifier switch signal ceases to be generated. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the control and switch signals as taught in Jung, in order to allow the system to avoid truncation of the data signal and allow the head-end to "receive a constant level signal" [col. 4, line 19].

Regarding claim 11, McMullan Jr. teaches all of that which is discussed above with regards to claim 10. However, the McMullan reference does not teach that the "CPLD generates said amplifier switch signal after said amplifier control signal is generated, thereby stabilizing said upstream amplifier". The Jung reference teaches the steps of sending a requested pilot signal to the head-end through an amplifier. The first

step requires a power (control) signal to turn on the pilot signal generator [col. 4, lines 49-60]. A later step requires the switch to be activated to connect the pilot signal to the amplifier [col. 5, lines 8-13]. The two steps that take place in that order meet the fact that the CPLD generates the amplifier switch signal after the amplifier control signal is generated, thereby stabilizing said upstream amplifier. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the control and switch signals as taught in Jung, in order to allow the system to stabilize and allow the head-end to "receive a constant level signal" [col. 4, line 19].

Regarding claim 12, McMullan Jr. and Jung teach all of that which is discussed above with regards to claim 11. The McMullan reference does not teach that the "CPLD continues generating said amplifier control signal after said CPLD ceases to generate said amplifier switch signal, thereby truncation of said upstream data signal is avoided". As is mentioned above, the steps of creating a power signal followed by creating a switching signal function to stabilize the upstream amplifier before transmission. The fact that the switching signal is negated after the power signal has been negated is met by the same steps as discussed above. The two steps that take place in that order meet the fact that the CPLD continues generating the amplifier control signal after the CPLD ceases to generate the amplifier switch signal, thereby truncation of the upstream data signal is avoided. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the control and switch signals as taught in Jung, in order to allow the system to avoid truncation of the data signal and allow the head-end to "receive a constant level signal" [col. 4, line 19].

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

DeSouza et al (USPN 5,379,289) disclose a media access controller, which can filter physical, group, and broadcast addresses for more efficient network management.

Stetson et al (USPN 6,552,614) disclose a cable modem amplifier with a bias current for signal amplification and power amplification.

Olgaard (USPN 6,307,429) discloses a power amplifier control loop with a power ramp table to control the on/off states of a signal amplifier and therefore minimize spurious power levels and undesirable signals.

West Jr. (USPN 4,692,919) discloses a system with an anti-babbling circuit for selectively enabling network transmission in order to maintain a working network in which the whole network does not crash even if one terminal crashes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael R. Shannon whose telephone number is (571) 272-7356. The examiner can normally be reached Monday through Friday 8:00 AM – 5:00PM, with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached at (571) 272-7353.

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Knox Building
501 Dulany Street
Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is **(571) 272-2600**.

Michael R Shannon
Examiner
Art Unit 2614

Michael R Shannon
March 21, 2005

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600